

Docket No.: 296543US0PCT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

GROUP: 2853

Michihiko NAMBA, et al.

SERIAL NO: 10/593,345

EXAMINER: Shah, Manish S.

FILED: January 10, 2007

FOR: RECORDING INK, INK CARTRIDGE,
INK RECORD, INKJET RECORDING
APPARATUS AND INKJET
RECORDING PROCESS

DECLARATION UNDER 37 C.F.R. § 1.132

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Sir:

Now comes Michihiko Namba who deposes and states that:

1. I am a graduate of Gakushuin University and received my Chemistry degree in the year 1994.

2. I have been employed by Ricoh Company, Ltd. for 15 years as a researcher in the field of ink jet technology.

3. The following experiments were carried out by me or under my direct supervision and control. (Please see notes which follow for description of components.)

(Example A)

-Production of Ink Composition

The ink composition of Example A was produced in substantially the same manner as in Example 1 of the specification, except that 1.0 % by mass of FSO-100 (manufactured by Du Pont Corporation), was used instead of 2.5 % by mass of FS-300.

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(Example B)

-Production of Ink Composition

The ink composition of Example B was produced in substantially the same manner as in Example 2 of the specification, except that 1.0 % by mass of FSO-100 (manufactured by Du Pont Corporation), was used instead of 2.5 % by mass of FS-300.

(Example C)

-Production of Ink Composition

The ink composition of Example C was produced in substantially the same manner as in Example 3 of the specification, except that 1.0 % by mass of FSO-100 (manufactured by Du Pont Corporation), was used instead of 2.5 % by mass of FS-300.

(Example D)

-Production of Ink Composition

The ink composition of Example D was produced in substantially the same manner as in Example 4 of the specification, except that 1.0 % by mass of FSO-100 (manufactured by Du Pont Corporation), was used instead of 2.0 % by mass of $R-(OCH_2CH_2)_n OH$ (wherein, R represents C_{12} alkyl group and n is 9).

(Comparable Example A)

-Production of Ink Composition

The ink composition of Comparative Example A was produced in substantially the same manner as in Example 1, except that 0.5 % by mass of FT-110 (manufactured by Neos Co., Ltd.), was used instead of 2.5 % by mass of FS-300.

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(Comparable Example B)

-Production of Ink Composition

The ink composition of Comparative Example B was produced in substantially the same manner as in Example 2, except that 0.5 % by mass of FT-110 (manufactured by Neos Co., Ltd.), was used instead of 2.5 % by mass of FS 300.

(Comparable Example C)

-Production of Ink Composition

The ink composition of Comparative Example C was produced in substantially the same manner as in Example 3, except that 0.5 % by mass of FT-110 (manufactured by Neos Co., Ltd.), was used instead of 2.5 % by mass of FS-300.

(Comparable Example D)

-Production of Ink Composition

The ink composition of Comparative Example D was produced in substantially the same manner as in Example 4, except that 0.5 % by mass of FT-110 (manufactured by Neos Co., Ltd.), was used instead of 2.0 % by mass of $R-(OCH_2CH_2)_n OH$ (wherein, R represents C_{12} alkyl group and n is 9).

Ink sets were then prepared as described in Table 2-2 as described on page 80 of the specification.

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Table 2-2

Ink Set	Ink Set Components			
	Cyan Ink	Yellow Ink	Magenta Ink	Black Ink
Added Example	Example A	Example C	Example B	Example D
Added Comparative Example	Comparative Example A	Comparative Example C	Comparative Example B	Comparative Example D

The ink sets of Table 2-2 were then evaluated as described on page 81 of the specification and the results obtained are shown in Table 3-2.

Table 3-2

	Yellow	Magenta	Cyan	Red	Green	Blue
Added Example	81.00	61.44	50.58	55.74	44.34	37.82
Added Comparative Example	78.92	59.92	49.69	54.22	42.16	35.78

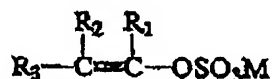
As shown by comparison of the added inventive Example and the Comparative Example, the ink set according to the claimed invention has significantly increased color saturation for all hues. The comparative example employs a surfactant used in Examples 1-11 of U.S. 2005/0054751 and therefore the data clearly shows improved performance of the claimed invention compared to the reference.

Notes: FS-300; In formula (I), m=0-10, n=1-14

FSO-100; In formula (I), m=0-10, n=1-25

F-470; perfluoroalkyl hydrophilic radical, oligomer containing lipophilic base
(structural formula is unknown)

FT-100;



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(R₁, R₂, and R₃ denote one of perfluoroalkyl group and fluorine atom, and M denotes one of Li, Na, and K.)

4. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

5. Further deponent saith not.

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Signature

Date

Michihiko Nambo
May 21, 2009